



# PSYCHE.

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## Notes on Butterflies of Massachusetts.

Date of the first appearance of butterflies, beginning with the earliest, as I have noted in 1878.

### WOLLASTON, MASS.

*Papilio antiopa*, first of Ap.  
*Polygonia comma*, 6 Ap.  
“ *progne*, 6 Ap.  
*Nymphalis j-album*, 6 Ap.  
*Cyaniris lucia*, 15 Ap.  
*Polygonia interrogationis*, 20 Ap.  
*Cyaniris neglecta*, 21 Ap.  
*Colias philodice*, last of Ap.  
*Lycaena americana*, first of My.  
*Ganoris rapae*, first of My.  
*Vanessa atalanta* (faded), 2 My.  
*Limochores taumas*, 2 My.  
*Vanessa huntera* (faded), 3 My.  
*Thorybes pylades*, 7 My.  
*Amaryssus polyxenes*, 18 My.  
*Phyciodes tharos*, 21 My.  
*Erynnis ennius*, 21 My.  
*Mitoura smilacis*, 22 My.  
*Limochores mystic*, 22 My.  
*Pamphila sassacus*, 22 My.  
*Erynnis brizo*, 22 My.  
*Erynnis persius*, 22 My.  
*Ocytes metea*, 23 My.  
*Brenthis myrina*, 23 My.  
*Megisto eurytus*, 24 My.  
*Euphœades glaucus*, 24 My.  
*Incisalia augustus*, 25 My.  
*Atrytone zabulon*, 25 My.  
*Pterourus troilus*, 25 My.

*Erynnis icelus*, 25 My.  
“ *lucilius*, 28 My.  
*Everes comyntas*, last of My.  
*Lerema hianma*, 4 Jun.  
*Ancyloxypha numitor*, 5 Jun.  
*Basilarchia disippe*, 8 Jun.  
*Polites peckius*.  
*Anthomaster leonardus*.  
*Euphydryas phaeton*, 19 Jun.  
*Limnoecia harrisii*, 19 Jun.  
*Basilarchia astyanax*, 19 Jun.  
*Epargyreus tityrus*, 25 Jun.  
*Basilarchia arthemis*, 29 Jun.  
*Argynnis cybele*, 1 Jl.  
*Thecla calanus*, 1 Jl.  
*Colias eurytheme*, 8 Oct.

### FOXBORO, MASS.

*Brenthis bellona*, first of Jun.

### BELCHERTOWN, MASS.

*Argus eurydice*, about 1 Jl.  
*Limochores bimacula*, about 1 Jl.  
*Hedone actna*, about 1 Jl.  
*Argynnis cybele*, about 1 Jl.  
“ *aphrodite*, 6 Jl.  
*Chrysophanus epixanthe*, 6 Jl.  
*Minois alope*, 6 Jl.  
*Danaïda plexippus*, 6 Jl.  
*Strymon titus*, 8 Jl.  
(*Brenthis bellona*, 8 Jl.)  
*Euphyes metacomet*, 9 Jl.

*Callipareus melinus*, 10 Jl.

*Speyeria idalia*, 10 Jl.

*Thecla liparops*, 15 Jl.

*Vanessa cardui*, 15 Jl.

*Atrytone conspicua*, 18? Jl.

*Achalarus lycidas* (faded), last of Jl.

NORTH LEVERETT, MASS.

(*Vanessa cardui*, 17 Jl.)

*Chrysophanus hylus*, 12 Ag.

ATTLEBORO, MASS.

*Euptoieta claudia*, 3 Ag.

GRANBY, MASS.

*Eurema lisa* (faded), 22 Ag.

*Junonia coenia*, 24 Ag.

SOUTH HADLEY, MASS.

*Feniseca tarquinius*, 22 Ag.

I have caught in 1878 the following specimens of diurnal lepidoptera.

The superior figures against dates indicate the number of specimens taken if more than one.

The localities are all in Massachusetts, and are indicated by heavy type, thus: **A.** Attleboro; **B.** Belchertown; **F.** Foxboro; **G.** Granby; **H.** South Hadley; **L.** North Leverett; **T.** Mt. Toby; **W.** Wollaston.

*Minoris alope.* **B.** 8, 13, 15<sup>23</sup>, 16 Jl.; **L.** 23, 24 Jl., 3 Ag.

*Argus eurydice.* **B.** 6-16 Jl.<sup>40</sup>.

*Megisto eurytus.* **W.** 23 My.-15 Jun.<sup>60</sup>; **T.** 17 Jl.

*Danaida plexippus.* **B.** 6, 18 Jl., 21 Ag. (larva); **L.** 17 Jl. (full grown larva), 5-14 Ag.<sup>4</sup>; **W.** 20, 21 S., middle of O.

*Basilarchia arthemis.* **W.** 29 Jun., 3 Jl.

*Basilarchia astyanax.* **W.** 19<sup>2</sup>, 20, 25, 29<sup>2</sup> Jun., 1<sup>2</sup>, 3 Jl.; **B.** 8, 10 Jl.; **L.** 20, 23 Jl.

*Basilarchia disippe.* **W.** 8, 10<sup>2</sup>, 15, 19<sup>5</sup>, 20 Jun.; **L.** 25 Jl., 5, 8, 9 Ag.; **B.** 24 Ag. (half grown larva on Populus).

*Polygonia interrogationis.* **B.** 26 Ag. (12 larvae on Humulus); **W.** Ag. 1877 (larvae), S. 1877.

*Polygonia comma.* **W.** Ap.<sup>12</sup>, 6 Ap.<sup>2</sup>; **B.** 11 Jl.

*Polygonia progne.* **W.** Ap.<sup>5</sup>, 6 Ap.<sup>4</sup>; **B.** 13 Jl.

*Nymphalis j-album.* **W.** 6, 10 Ap.; **L.** 17 Jl.; 3 Ag.

*Aglais milberti.* **W.** O. 1877.

*Papilio antiopa.* **W.** 6 Ap.<sup>5</sup>, 29, 30<sup>3</sup> Jun., 1 Jl.<sup>5</sup>, O.<sup>10</sup>; **B.** 8<sup>2</sup>, 12, 13 Jl.; **L.** 23 Jl., 3, 8, 14 Ag.

*Vanessa atalanta.* **W.** 2, 3<sup>12</sup>, 5<sup>3</sup> May, 1 Jun., 12 O.; **B.** 8<sup>2</sup>, 12, 13 Jl.; **L.** 23 Jl., 3, 8, 14 Ag.

*Vanessa huntera.* **W.** 3 My., S. and O.<sup>6</sup>; **B.** 8, 10, 11<sup>2</sup>, 13, 15 Jl.; **L.** 24<sup>6</sup>, 29<sup>3</sup> Jl., 4, 7, 8, 10, 13 Ag.

*Vanessa cardui.* **B.** 15 Jl.; **L.** 17 Jl., 8<sup>5</sup>, 9<sup>2</sup>, 10<sup>3</sup>, 12<sup>7</sup>, 13 Ag.; **W.** S. and O.<sup>6</sup>.

*Junonia coenia.* **G.** 24 Ag.; **W.** Ag. and S. 1876 and 1877<sup>5</sup>.

*Euptoieta claudia.* **A.** A specimen taken 3 Ag. by W. W. L. Mason.

*Speyeria idalia*. B. 10 Jl.; W. Last of Ag. and first of S. (a few specimens).

*Argynnis cybele*. W. 1 Jl.; B. 6-15 Jl.<sup>10</sup>; L. 18 Jl.-10 Ag.<sup>8</sup>.

*Argynnis aphrodite*. B. 6-15 Jl.<sup>6</sup>; L. 18 Jl.-10 Ag.<sup>10</sup>.

*Brenthis myrina*. W. 23, 28<sup>4</sup> My., 1<sup>2</sup>, 3<sup>3</sup>, 4, 5<sup>2</sup>, 19<sup>3</sup>, 25<sup>2</sup> Jun., S.; B. 10 Jl.; L. 9<sup>2</sup>, 13, 14 Ag.

*Brenthis bellona*. F. 12<sup>?</sup> Jun.; B. 8<sup>3</sup>, 9<sup>2</sup>, 13, 15<sup>9</sup> Jl.; L. 29 Jl., 6 Ag.

*Phyciodes tharos*. W. 21-28 My.<sup>28</sup>, 1-21 Jun.<sup>20</sup>; B. 6 Jl.<sup>4</sup>; L. 3, 5 Ag.

*Limnoecia harrisii*. W. 19 Jun.

*Euphydryas phaeton*. W. 19<sup>6</sup>, 20<sup>42</sup>, 21<sup>32</sup>, 22<sup>2</sup>, 24<sup>5</sup>, 29 Jun.; B. 8 Jl.

*Thecla strigosa*. W. Jl. 1877<sup>2</sup>; B. 15 Jun.

*Thecla edwardsii*. L. 18 Jl.<sup>5</sup>.

*Thecla calanus*. W. 1 Jl.; L. 18 Jl.-Ag.<sup>8</sup>.

*Callipareus melinus*. B. 10<sup>2</sup>, 11<sup>2</sup>, 15<sup>2</sup>, 16 Jl.; L. 19, 29 Jl., 3<sup>2</sup>, 8 Ag.

*Mitoura smilacis*. W. 22 My.<sup>2</sup>, 29 Jun., 1, 3 Jl.

*Incisalia augustus*. W. 25 My.<sup>2</sup>.

*Strymon titus*. A. Jl.; B. 8, 16 Jl.; L. 19 Jl.

*Cyaniris neglecta*. W. 21 Ap.-My.<sup>9</sup>; B. 6, 11, 13, 15<sup>2</sup> Jl.; L. Jl.

*Cyaniris lucia*. W. 15-21 Ap.<sup>35</sup>.

*Everes comyntas*. W. My.<sup>4</sup>, 3, 5, 14 Jun., 4 Jl.; B. 6, 11, 13, 15<sup>2</sup> Jl.;

## L. Jl.

*Chrysophanus hyllus*. L. 12 Ag.

*Lycaena americana*. W. My.<sup>9</sup>, 5<sup>2</sup>, 7, 8 Jun., 4 Jl.; B. 6-15 Jl.

*Lycaena epixanthe*. W. Jl. 1877; B. 6 Jl.

*Fenisea tarquinius*. H. 22 Ag.

*Colias philodice*. W. My.<sup>8</sup>, 3<sup>4</sup>, 5, 6, 25, 26 Jun., 3, 4 Jl., O.; B. 6<sup>2</sup>, 8<sup>2</sup>, 9, 15 Jl.; L. 18, 24 Jl.

*Colias eurytheme*. W. 8 O.

*Eurema lisa*. G. 22 Ag.

*Ganoris rapae*. W. My.<sup>6</sup>, 3, 6 Jun.; B. 8, 13 Jl.; L. 5, 8, 12<sup>2</sup> Ag.

*Pterourus troilus*. W. 25, 28 My., 10, 13 Jun.; B. 6, 8 Jl.; L. 18<sup>2</sup>, 19<sup>5</sup>, 23, 25, 29<sup>2</sup> Jl., 5 Ag.

*Euphœades glaucus*. W. 25, 27<sup>2</sup> My., 4<sup>2</sup>, 6, 8, 14, 20 Jun., 4 Jl.; B. 15 Jl.

*Amaryssus polyxenes*. W. 18 My., 19 Jun.

*Epargyreus tityrus*. W. 25 Jun.; B. 6<sup>4</sup>, 8<sup>2</sup>, 9, 11, 13<sup>4</sup>, 15<sup>2</sup>, 16<sup>3</sup> Jl.; L. 18<sup>2</sup>, 19, 24<sup>3</sup>, 29 Jl.

*Achalarus lycidas*. L. Last of Jl.

*Thorybes pylades*. W. My.<sup>4</sup>, 28<sup>3</sup> My., 1<sup>2</sup>, 4<sup>2</sup>, 5, 6<sup>4</sup>, 7<sup>2</sup>, 8<sup>2</sup>, 13<sup>2</sup> Jun.; B. 6<sup>2</sup> Jl.

*Erynnis persius*. W. 22 My.

*Erynnis lucilius*. W. 28 My.; B. 13, 15 Jl.; L. 5 Ag.

*Erynnis icelus*. W. 25 My., 6 Jun.<sup>2</sup>.

*Erynnis brizo*. W. 22, 23<sup>5</sup> My.

*Erynnis ennius*. W. 21 My.<sup>2</sup>, Jl. 1877.

- Ancyloxypha numitor*. W. 5, 6, 7, 14<sup>8</sup> Jun.; L. 5 Ag.  
*Ocytes metea*. W. 23 My.<sup>2</sup>.  
*Atrytone conspicua*. L. 17<sup>?</sup> Jl.  
*Atrytone zabulon*. W. My.<sup>14</sup>, 1<sup>3</sup>, 3<sup>4</sup>, 4<sup>2</sup>, 6<sup>3</sup>, 7<sup>4</sup>, 8<sup>3</sup>, 13<sup>9</sup>, 19, 20 Jun.  
*Pamphila sassacus*. W. 22 My., 4<sup>4</sup>, 5<sup>3</sup>, 6<sup>3</sup>, 7<sup>2</sup>, 8, 13<sup>2</sup> Jun.  
*Anthomaster leonardus*. W. Jun.; 28 Ag.  
*Polites peckius*. W. My., 1, 3<sup>2</sup>, 7<sup>4</sup> Jun.; B. 6-15 Jl.; L. 8, 10, 12 Ag.  
*Hedone aetna*. B. 6<sup>2</sup>, 8-15<sup>6</sup> Jl.  
*Limochores mystic*. W. 6, 8, 13<sup>4</sup>, 14<sup>5</sup>, 19<sup>6</sup>, 25 Jun., 15 O.  
*Limochores bimacula*. B. 6<sup>5</sup>, 8<sup>2</sup> Jl.  
*Limochores taumas*. W. My.<sup>9</sup>, 3, 5, 6<sup>2</sup>, 7<sup>2</sup>, 13<sup>2</sup> Jun.; B. 8 Jl.; L. Jl. and Ag.  
*Euphyes metacomet*. B. 13, 16 Jl.; L. 18<sup>2</sup>, 19<sup>2</sup> Jl., 3 Ag.<sup>2</sup>.  
*Lerema hianna*. W. 4, 6, 7, 8, 13<sup>3</sup>, 19 Jun.

F. H. Sprague.

### Westward Progress of *Eristalis tenax*, Linn.

Reading lately the interesting account of the American occurrence of this insect (PSYCHE, 1878, v. 2, p. 188), I was led to examine my Syrphidae, collected during the past five years.

I find that I have taken nine specimens of *E. tenax*, now fully identified as such by Mr. Burgess' description and by comparison with five European instances. Of my local captures four are males and five females, and the dates are these: 1876, July 23, ♀; 1877, Sept. 2 and 16, ♂ ♂, Sept. 23, ♀, Oct. 14, ♂ ♂ ♀, Oct. 24, ♀; 1878, July 23, ♀. All these were taken within three miles of Galena, Illinois. *Thos. E. Bean.*  
*Galena, Ill.*

### The Ovipositor of *Amblychila*.

The eighth abdominal segment of *Amblychila* is withdrawn within the abdomen. Its ventral arc in the female has a deep median slit and extends beyond the dorsal arc. Enclosed within this segment, and extending as far as its ventral arc, there is apparent a large plate cleft into three pieces, which probably represent the dorsal and pleural pieces of a ninth abdominal segment. Underneath these are a pair of large and stout chitinous processes having an upward curve. These somewhat resemble the processes which form the ovipositor of Acrididae, and probably serve likewise to bore into the ground